

Attorney Docket No. LVIP:106US  
U.S. Patent Application No. 10/604,135  
Reply to Office Action of March 22, 2007  
Date: August 20, 2007

### Remarks

#### The § 112, first paragraph Rejections of Claims 1-4, 10, and 11

The Examiner rejected Claims 1-4, 10, and 11 under 35 U.S.C. § 112, first paragraph as containing subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors possessed the claimed invention at the time the application was filed. Specifically, the Examiner stated that there was inadequate support for the limitation of measuring the thickness of at least one specimen section. Applicants have amended Claims 1-4, 10, and 11 to delete that claim limitation. Applicants respectfully request reconsideration and withdrawal of the rejections of Claims 1-4, 10, and 11 under §112, first paragraph.

#### The § 103 Rejections of Claims 1-4, 10, and 11

The Examiner rejected Claims 1, 10, and 11 under 35 U.S.C. § 103 (a) as obvious over Applicants Admitted Prior Art (AAPA) in view of U.S. Patent No. 4,511,224 to Sitte, et al. (“Sitte” or “the Sitte patent”), German Patent Publication DE 36 15 713 to Wolfe (“Wolfe” or “the Wolfe patent”) and U.S. Patent Publication No. 2003/0024368 to Fukuoka (“Fukuoka” or the Fukuoka patent”). Applicants have cancelled Claim 3 thereby rendering the rejection of that claim moot. Applicants have amended Claims 1, 10, and 11 by combining them with limitation of Claim 3. Applicants respectfully traverse the rejection of Claims 1, 10, and 11 and request reconsideration.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In addition, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

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Claim 1 claims the embodiment in which at least one of the combination of at least one light source acting as a base-mounted illumination system, at least one light source acting as an incident illumination system, and at least one light source acting as an internal preparation illumination system is mounted so the light is directed toward the knife edge of the microtome knife and from the knife edge toward the preparation, or specimen, in such a way as to uniformly illuminate the gap between the knife edge and the specimen. Support for this amendment is found in Figure 3 and paragraph 0018 of the specification.

Applicants respectfully point out that only the instant application teaches this limitation. In contrast, none of the cited references teach or suggest directing the light from any light source in this manner. One cited reference in the rejection that is directed to microtomes or ultramicrotomes, the Sitte patent, only teaches or suggests the illumination of the knife – specimen area not the direction of light along a specific path let alone the specific reflection of light off the knife blade toward the specimen. The other microtome reference, Wolf, teaches a light source from a specimen arm. The Fukuoka patent, directed to circular saws, only teaches the interchangeability of multiple light sources. Thus there is no explicit teaching or suggestion in the cited references to direct light along the specific light source → knife edge → specimen light path.

Thus the cited combination of the AAPA with Sitte, Wolf, and Fukuoka fails to render Claims 1, 10, and 11 obvious as they fail to teach or suggest all the limitations of those claims, namely the direction of light along the specific light source → knife edge → specimen light path. Applicants respectfully request reconsideration and allowance of Claims 1, 10, and 11.

The Examiner rejected Claims 2 and 3 under 35 U.S.C. § 103 (a) as obvious over AAPA in view of either Sitte, Wolf and Fukuoka as applied to Claim 1 and further in view of U.S. Patent No. 6,195,016 to Shankle, et al. (“Shankle” or “the Shankle patent”). Applicant has cancelled Claim 3 thereby rendering the rejection of that claim moot. Applicants respectfully traverse the rejection of Claim 2 and request reconsideration.

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Claim 2 depends from Claim 1 and thus incorporates all the limitations of that claim. Specifically, Claim 2 includes the limitation that the claimed microtome or ultramicrotome of Claim 2 includes a light source that directs light along the specific light source → knife edge → specimen light path. As noted above, none of the cited references teach this light path. In addition, the Shankle patent, cited to show the use of frosted glass with LEDs, is directed to a fiber optic display system in which light is taught as being directed through different components with no teaching of reflecting light along a specific path, let alone a light path that includes a knife and a specimen. Therefore, the combined AAPA, Sitte, Wolf, Fukuoka, and Shankle references fail to render Claim 2 obvious as they fail to teach or suggest all the elements of Claim 2, namely the direction of light along a specific source → knife edge → specimen light path. Applicants respectfully request reconsideration and allowance of Claim 2.

The Examiner rejected Claim 4 under § 103 (a) as obvious over the AAPA in view of Sitte, Wolf Fukuoka, and Shankle as applied to Claim 2 and further in view of U.S. Patent No. 4,896,967 to Douglas-Hamilton, et al. (“Douglas-Hamilton” or the “Douglas-Hamilton patent”). Applicants respectfully traverse this rejection and request reconsideration.

Claim 4 originally depended from cancelled Claim 3 and has been amended to depend from amended independent Claim 1. As such the discussion above concerning the cited references Sitte, Wolf, Fukuoka, and Shankle applies to Claim 4. As discussed above, none of the previously cited references teach or discuss the direction of light from a source to reflect off a microtome or ultramicrotome knife edge to a specimen. Similarly, the Douglas-Hamilton patent also fails to show the light path claimed in Claim 4. The Figure 8 of the Douglas-Hamilton patent is cited as teaching the use of a first and second LED to illuminate a microscope specimen. However, Applicants respectfully point out that like the other cited references, Douglas-Hamilton fails to show a light path that includes light reflected from two separate nonmirror components before it enters the microscope objective or other light receptor. Only the Applicants’ own specification teaches this light path. Applicants respectfully point out that this portion of the instant application is not admitted prior art. Thus, the other cited references in

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combination with Douglas-Hamilton fail render Claim 4 obvious as they fail to teach or suggest the reflection of light from one nonmirror component to another, let alone specifically from a knife edge to a specimen. Applicants respectfully request reconsideration and allowance of Claim 4.

Applicants respectfully point out that in a previous Office Action dated September 27, 2005, the Examiner states that DE 3224375 to Bilek ("Bilek" or "the Bilek publication") shows the reflection of light off knife edge 15 to the specimen in Figure 3 of that publication. Applicants respectfully traverse this statement. In Figure 3 of Bilek, there is no depiction of the specimen. The only showing of a specimen in Bilek is in Figure 1 which only shows light bending from the knife blade to the microscope objective. Moreover, in UK Patent Application 2129957A, which claims priority from Bilek, it can be seen that Bilek is directed to checking the quality of a knife in a microtome or ultramicrotome. There is no teaching or suggestion in this English language counterpart of the Bilek publication to reflect the light from the knife edge to the specimen and in fact, the counterpart UK publication teaches the shifting of the exposed surface of the knife to guarantee clear viewability of the cutting edge. (See UK Patent Application '957A, page 1, lines 67-73). In addition, a reflection off the specimen could arguably detract from the objective of the Bilek disclosure which is to inspect the quality of the microtome knife.

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### **Conclusion**

Applicants respectfully submit that the present application is now in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned attorney of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully yours,



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